

CLAIMS

1 1. A computer-implemented method for use with a subject
2 message, for use further with a network of agents each having a view of its
3 own domain of responsibility, comprising the steps of a first one of said
4 agents:

5 receiving from an upchain agent a query inquiring whether at least part
6 of said subject message is within the domain of responsibility of said first
7 agent;

8 querying at least one agent downchain of said first agent whether the
9 queried agent considers at least part of said subject message to be in the
10 queried agent's domain of responsibility;

11 responding to said upchain agent tentatively whether at least part of said
12 subject message is within the domain of responsibility of said first agent,
13 before said first agent receives all responses from said agents downchain of
14 said first agent.

1 2. A method according to claim 1, further comprising the step of,
2 after said step of responding, said first agent responding further to said upchain
3 agent whether at least part of said subject message is within the domain of
4 responsibility of said first agent, after said first agent receives at least one
5 additional response from said agents downchain of said first agent.

1 3. A method according to claim 2, wherein said step of said first
2 agent responding further occurs in response to a second query received by said
3 first agent from said upchain agent inquiring whether at least part of said
4 subject message is within the domain of responsibility of said first agent.

1 4. A method according to claim 2, wherein said step of said first
2 agent responding further occurs in response to said first agent receiving said
3 at least one additional response.

1 5. A computer-implemented method for processing a subject
2 message, by a network of agents including an originating agent and at least one
3 agent downchain of said originating agent, each agent in said network having
4 a view of its own domain of responsibility, comprising the steps of said
5 originating agent:

6 querying at least one of the agents downchain of said originating agent
7 in said network a first time, whether the queried agent considers at least part
8 of said subject message to be in the queried agent's domain of responsibility,
9 said first query including a first depth-of-search indication;

10 resolving any conflicting responses from said queried agents to identify
11 a prevailing one of said downchain agents to whom said subject message
12 should be passed; and

13 instructing said prevailing agent to handle at least part of said subject
14 message.

1 6. A method according to claim 5, further comprising the steps of
2 a first one of said queried agents, in response to said query:

3 determining whether a depth of said first agent exceeds said depth of
4 search indication, and if so, disclaiming said subject message.

1 7. A method according to claim 5, further comprising the steps of
2 a first one of said queried agents, in response to said query where a depth of
3 said first agent does not exceed said depth of search indication:

4 determining whether at least part of said subject message is within said
5 first agent's local domain of responsibility, and if so, returning a response to
6 said originating agent claiming at least part of said message.

1 8. A method according to claim 5, further comprising the steps of
2 a first one of said queried agents, in response to said query where a depth of
3 said first agent does not exceed said depth of search indication:
4 determining whether at least part of said subject message is within said
5 first agent's local domain of responsibility;
6 and where said subject message is not within said first agent's local
7 domain of responsibility but said first agent has further agents downchain of
8 said first agent, querying at least one of said further agents whether the further
9 agent considers at least part of said subject message to be in the further agent's
10 domain of responsibility.

1 9. A method according to claim 5, further comprising the step of,
2 after said step of querying said agents downchain of said originating agent a
3 first time, querying said agents downchain of said originating agent a second
4 time whether the queried agent considers at least part of said subject message
5 to be in the queried agent's domain of responsibility.

1 10. A method according to claim 9, wherein said second query
2 includes a second depth-of-search indication which exceeds said first depth-of-
3 search indication.

1 11. A computer-implemented method for processing a subject
2 message, by a network of agents including an originating agent and at least one
3 agent downchain of said originating agent, each agent in said network having
4 a view of its own domain of responsibility, comprising the steps of said
5 originating agent:
6 querying at least one of the agents downchain of said originating agent
7 in said network a first time, whether the queried agent considers at least part
8 of said subject message to be in the queried agent's domain of responsibility;

9 subsequently querying said queried agents a second time whether the
10 queried agent considers at least part of said subject message to be in the
11 queried agent's domain of responsibility;
12 resolving any conflicting responses from said queried agents to identify
13 a prevailing one of said downchain agents to whom at least part of said subject
14 message should be passed; and
15 instructing said prevailing agent to handle at least part of said subject
16 message.

1 12. A method according to claim 11, wherein said prevailing agent
2 is a community of agents.

1 13. A method according to claim 11, further comprising the steps of
2 a first one of said queried agents, in response to one of said queries:
3 determining whether at least part of said subject message is within said
4 first agent's local domain of responsibility;
5 and where at least part of said subject message is within said first
6 agent's local domain of responsibility, returning a response to said originating
7 agent claiming at least part of said subject message.

1 14. A method according to claim 11, further comprising the steps of
2 a first one of said queried agents, in response to one of said queries:
3 determining whether at least part of said subject message is within said
4 first agent's local domain of responsibility;
5 and where said subject message is not within said first agent's local
6 domain of responsibility and said first agent has no further downchain agents,
7 returning a response to said originating agent disclaiming said subject
8 message.

1 15. A method according to claim 11, further comprising the steps of
 2 a first one of said queried agents, in response to one of said queries:
 3 determining whether at least part of said subject message is within said
 4 first agent's local domain of responsibility;
 5 and where said subject message is not within said first agent's local
 6 domain of responsibility but said first agent has further agents downchain of
 7 said first agent, querying at least one of said further agents whether the further
 8 agent considers at least part of said subject message to be in the further agent's
 9 domain of responsibility.

1 16. A method according to claim 11, wherein said step of querying
 2 a first time comprises the step of providing to each of said queried agents a
 3 first depth-of-search indication for said subject message,
 4 and wherein said step of querying a second time comprises the step of
 5 providing to each of said queried agents a second depth-of-search indication
 6 for said subject message, said second depth-of-search indication indicating a
 7 deeper search than said first depth-of-search indication.

1 17. A method according to claim 11, further comprising the steps of
 2 a first one of said queried agents:
 3 determining in response to said first query whether at least part of said
 4 subject message is within said first agent's local domain of responsibility;
 5 where at least part of said subject message is within said first agent's
 6 local domain of responsibility, returning a response to said originating agent
 7 claiming at least part of said subject message; and
 8 where said subject message is not within said first agent's local domain
 9 of responsibility but said first agent has further agents downchain of said first
 10 agent, querying in response to said second query at least one of said further
 11 agents whether the further agent considers at least part of said subject message
 12 to be in the further agent's domain of responsibility.

1 18. A method according to claim 17, further comprising the steps of
2 said first queried agent:
3 receiving a group of at least one response from said further agents
4 downchain of said first agent, in response to said step of querying said further
5 agents; and
6 returning a response to said originating agent in response to said step
7 of receiving.